

REMARKS

Claims 1 - 16 are pending. Claims 1 and 6 have been amended. No new matter has been introduced. Reexamination and reconsideration of the present application are respectfully requested.

In the December 15, 2004 Office Action, the Examiner rejected claims 1 - 8 and 12 - 16 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,569,038 to Tubman ("the Tubman reference"). The Examiner rejected claims 9 - 11 under 35 U.S.C. § 103(a) as being unpatentable over the Tubman reference. These rejections are respectfully traversed.

Claim 6 recites:

A sound processing apparatus comprising:  
**a signal separator that separates an input audio signal of each of at least one system into a plurality of separated signal components corresponding respectively to a plurality of different types of sound sources;**  
**a sound processor that subjects each signal component of at least part of the plurality of separated signal components to individual sound processing suitable for the signal component; and**  
an output controller that outputs the plurality of separated signal components as at least one audio signal after each signal component of the at least part thereof is subjected to the individual sound processing.

The Tubman reference does not disclose, teach, or suggest the sound processing apparatus of claim 6 as amended. The Examiner states that the Tubman reference discloses a sound processing apparatus including a signal separator 34, where the signal separator separates an audio signal of at least one system into a plurality of separated signal components 12, 14, 16, and 18 corresponding respectively to a plurality of different types of sound source (e.g., music, vocal, acoustic prompt). (*Office Action, page 2*). The Examiner also states that the Tubman reference discloses

a sound processor 34 that subjects each signal component of at least part of the plurality of separated signal components to individual sound processing suitable for the signal component and an output controller 26 that outputs the plurality of separated signal components 36, 59, 57 as at least one audio signal after each signal component of the at least one part thereof is subjected to the individual sound processing. (*Office Action, pages 2 and 3*).

Specifically, the Tubman reference is directed to the creation of an Acoustiprompt recording and the playback of an Acoustiprompt recording. Fig. 1 of the Tubman reference illustrates the AcoustiPrompt recording system. The Tubman reference discloses that audio signals (e.g., 12, 14, 16, and 18) from respective different types of sound sources, are input as separate signals. There is also an input 10 (pushbutton) for marking the start of each vocal line. The audio inputs 12, 14, 16, and 18 are converted to digital signals by respective A/D converters 32 in order to be applied to memory circuits 34, which are four digital delay lines. At a later time, the respective digital signals stored in the respective memories 34 are read out sequentially from the four memories, and are presented to four respective D/A converters 36. The output signals from the D/A converters 36 are the same as the original audio signals 12, 14, 16, and 18, except that they have been delayed in time by temporary storage in the memories. (*Fig. 1, col. 8, line 41 - col. 9, line 20*).

The Tubman reference does not disclose, teach, or suggest a sound processing apparatus including **a signal separator that separates an input audio signal of each of at least one system into a plurality of separated signal components corresponding respectively to a plurality of different types of sound sources.** In

contrast, the Tubman reference discloses that four separate signals, from multiple sound sources (such as left and right channels or stereo music, a vocal track and a microphone) are input, converted to digital signals, and stored in a memory 34 which includes a digital delay line for each of the four signals. The four delayed signals read sequentially out of the memory 34 are converted to analog signals by four D/A converters. The signals output from the converters are the same except they are delayed in time by storage in the memory. (*Col. 9, lines 4 - 25*).

This is not the same as a sound processing apparatus including a **signal separator that separates an input audio signal of each of at least one system into a plurality of separated signal components corresponding respectively to a plurality of different types of sound sources**. It is not the same because Tubman does not disclose that a single input signal is divided into multiple components by a signal separator in a sound processing apparatus, as is recited in claim 6. In other words, Tubman discloses four signals arriving at the apparatus, which is in contrast to an input audio signal which is separated by a signal separator into four audio components. The Examiner states that the memory 34 acts as a signal separator that separates an audio signal into a plurality of separated signal components. (*Office Action, page 2*). The applicants respectfully disagree because the Tubman reference is disclosing that four signals are input into a plurality of memory circuits and are read out of the four memories with the only difference being that the four input signals have been delayed. (*Col. 9, lines 4 - 17*). Illustratively, the Tubman reference could not take a microphone audio input signal, separate ambient sound and on-the-spot speech components from the signal, and subject the ambient sound and on-the-spot speech

component to signal processing because the Tubman reference does not disclose separating the input signal. Accordingly, applicant respectfully submits that claim 6, as amended, distinguishes over the Tubman reference.

Independent claim 1, as amended, recites limitations similar to claim 6, as amended. Accordingly, applicant respectfully submits that claim 1 distinguishes over the Tubman reference for reasons similar to those discussed above in regard to claim 1.

Claims 2 - 5 and 7 - 16 depend, indirectly or directly, on claims 1 and 6. Accordingly, applicant respectfully submits that claims 2 - 5 and 7 - 16 distinguish over the Tubman reference for the same reasons as those discussed above in regard to claim 6.

Dependent claim 9 further distinguishes over the Tubman reference. Claim 9 recites:

**A sound processing apparatus as claimed in claim 6, wherein said signal separator performs spectrum analysis upon said input audio signal to extract a specific signal component, and subtracts the extracted specific signal component from the input audio signal to obtain a remaining signal component of the input audio signal.**

The Tubman reference does not disclose the sound processing apparatus of claim 9. As noted above, the Tubman reference does not disclose a signal separator. The Examiner states Fig. 1 did not clearly teach the limitations of claim 9 and the applicant agrees with the Examiner. In addition, the Examiner states that in Fig. 8, the Tubman reference teaches a sound processing apparatus of the signal separator 56 (actually a mixer) performing a spectrum analysis upon said audio signal to extract an audio component and inherently subtracting, by faders, the extracted specific signal

component from the input audio signal to obtain a remaining signal component of the input audio signal. Thus, the Examiner states it would have been obvious to combine the teachings of Fig. 8 and Fig. 1 to provide more choice to obtain a remaining signal component of the audio signal. (*Office Action, page 5*). The applicant respectfully disagrees with the Examiner.

First, Fig. 8 is directed to an AcoustiPrompt player system (i.e., playing Acoustiprompt recordings) and not to a AcosticPrompt recording system. Thus, the combining of Fig. 8 into Fig. 1 is not obvious because the figures are directed to two types of devices, i.e., a playback system versus a recording system. Further, the Tubman reference discloses a mixer 56 into which four respective signals supplied from a four-channel recording medium playback device are added together in a controlled and specified manner. However, this is not the same **as performing spectral analysis on an input audio signal to extract a specific component**, as is recited in claim 9 because there is no disclosure in Tubman that the mixer performs spectral analysis. Accordingly, claim 9 further distinguishes over the Tubman reference.

Dependent claim 10 further distinguishes over the Tubman reference. Claim 10 recites:

A sound processing apparatus as claimed in claim 6, wherein said **signal separator comprises a plurality of signal enhancement/suppression devices that enhance part of a plurality of signal components contained in said input audio signal, and suppress remaining signal components.**

The Tubman reference does not disclose, teach, or suggest the sound processing apparatus of claim 10. As discussed earlier, the Tubman reference does not disclose a signal separator because a plurality of signals are input to the Tubman

recording or playback system and no signal separation takes place. The Examiner states that volume controls 78, 79, 80, 81, and 92 disclose the enhancing part of a plurality of signal components contained in said input audio signal limitation. (*Office Action, page 5*). Applicants respectfully disagree because these volume controls act on one or two of the four disclosed input signals in the Tubman reference and do not work on a single audio signal. In other words, the disclosed volume controls do not operate on a signal audio signal. Accordingly, applicant respectfully submits that claim 10 further distinguishes over the Tubman reference.

Dependent claim 11 further distinguishes over the Tubman reference. Claim 11 recites:

A sound processing apparatus as claimed in claim 6, wherein said input audio signal comprises audio signals of a plurality of channels, and said signal separator comprises a plurality of signal separators corresponding respectively to said plurality of channels, and wherein each of said plurality of signal separators performs predetermined sound processing by supplementarily referring to at least one of the audio signals of at least one other channels than a channel corresponding thereto, thereby improving accuracy of separation of the input audio signal of the corresponding channel into a plurality of separated signal components.

The Tubman reference does not disclose, teach, or suggest the sound processing apparatus of claim 11. The Tubman reference does not disclose **a plurality of signal separators** nor does the Tubman reference disclose that **each of the plurality of signal separators performs predetermined sound processing by supplementarily referring to at least one audio signals from other channels**, as is recited by claim 11. The Examiner states that this claim is disclosed in Fig. 8 because the signal separator comprise plurality of signal separators (music, vocal, prompt, microphone) corresponding respectively to said plurality of channels, wherein each of

the plurality of signal separators 18f and 18n perform the sound processing and supplementarily refer to other audio signals. (*Office Action, pages 5 and 6*).

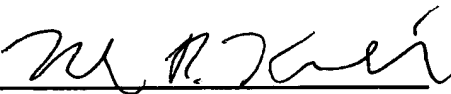
The applicant respectfully disagrees with the Examiner's statements. First, music, vocal, prompt, and microphone are not signal separators; they are input signals. Second, applicant finds no reference to reference numerals 18f and 18n. Accordingly, applicant respectfully submits that claim 11 further distinguishes over the Tubman reference.

Applicant believes the claims are in condition for allowance. If the Examiner has any questions, the Examiner is requested to call either of the undersigned attorneys at the Los Angeles telephone number (213) 488-7100 to discuss the steps necessary for placing the application in condition for allowance should the Examiner believe that such a telephone conference would advance prosecution of the application.

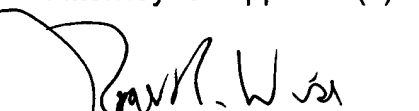
Respectfully submitted,

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